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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/356,564	07/19/1999	TOSHIO NORITA	030682-086	7986

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BURNS DOANE SWECKER & MATHIS L L P
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER

TRAN, NHAN T

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 08/28/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/356,564

Applicant(s)

NORITA ET AL.

Examiner

Nhan T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-29 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 July 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 13 – 17, 20 – 23 & 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Terada et al (US 6,124,888).

Regarding claim 13, Terada discloses a digital camera (col. 11, lines 32-37) comprising:
an image sensor (103 or 602) for converting a subject image into electric signal on a plurality of pixels to obtain a captured image, the image sensor is capable of randomly selecting one of more pixels to be read out from the plurality of pixels (see Figs. 1, 7 & 25; col. 11, lines 16-29, wherein “randomly selecting” is implied in col. 11, lines 62-65);

a control circuit (108, 109) for reading out the electric signal from the image sensor in accordance with a pixel pattern (e.g., block, skip or whole pixel pattern), the pixel pattern being different from among first (e.g., still mode) and second (e.g., motion mode) operations of the digital camera (see Figs. 10 & 15; col. 11, lines 16-29 & col. 12, lines 11-28).

Regarding claim 14, the control circuit includes a pattern selector for selecting a first pixel pattern (whole pixel pattern) in the first operation (still mode) a second pixel pattern (block or skip pixel pattern) different from the first pixel pattern in the second operation (motion mode); and a pixel selector for selecting and reading out a set of pixel from all pixels (whole pixels) of the image sensor in accordance with a selected pixel pattern (see Figs. 10 & 15; col. 12, lines 11-28).

Regarding claim 15, Terada discloses that the image sensor is a MOS image sensor having a matrix structure with rows and columns of pixels each composed of photodiode and a MOS switch (see Fig. 7 for CMD sensor which is a MOS sensor, and further Figs. 25-26 and col. 25, lines 15-23 & col. 26, lines 5-8 wherein a semiconductor switch implies a MOS switch).

Regarding claim 16, Terada shows that the digital camera comprises a plurality of control switches (401 as shown in Fig. 10) wherein the first and second operations are performed in response to an operation of at least one of the plurality of control switches (see Figs. 8 & 10).

Regarding claim 17, the first operation (still mode) is a recording operation to record the captured image in a recording medium (105) in accordance with a first pixel pattern (whole pixel pattern) (see Fig. 7; col. 11, lines 27-40);

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the second operation (motion mode) is a display operation to display the captured image in accordance with a second pixel pattern (block or skip pattern) (see col. 11, lines 23-26 & col. 12, lines 41-50 & col. 12, lines 11-28);

The second pixel pattern inherently has a smaller number of pixels to be read out than the first pixel pattern (also see Figs. 27-29).

Regarding claim 20, the claimed limitations are analyzed with respect to claim 13.

Regarding claim 21, the claimed limitations are analyzed with respect to claim 14.

Regarding claim 22, the claimed limitations are analyzed with respect to claim 16.

Regarding claim 23, the claimed limitations are analyzed with respect to claim 17.

Regarding claim 26, the claimed limitations are analyzed with respect to claim 13, wherein an operating member and selector are represented by 108 and 109 as shown in Figs. 7 & 10.

Claim Rejections - 35 USC § 102

2. Claims 27 & 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoneyama Juichi (JP-04-313949).

Regarding claim 27, Yoneyama discloses a digital camera (see Fig. 1 for A/D converter which presents a digital camera) comprising an image sensor (11) for capturing a subject image to obtain electric signals on an array of photocells (inherent photocells included in image sensor 11); and a signal reader to read out the electric signals from the array of photocells at different conditions (different number of times) for substantially same scene without substantially erasing the electric signals in the array of photocells (nondestructive readout), whereby different image expressions of the substantially same scene are obtained (see Abstract for high dynamic range image pickup device utilizing a nondestructive image sensor which does not erase electric signals accumulated in a prescribed number of times).

Regarding claim 28, Yoneyama discloses that the different conditions include different time points at which the image signals are read out from the array of photocells, and the different time points are defined within a time period during which the electric signals are accumulated on the array of photocells for the substantially same scene (see Abstract for the nondestructive readout of the image sensor 11 at different time points to increase the high dynamic range of an output image).

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneyama Juichi (JP-04-313949) in view of Terada et al (US 6,124,888).

Regarding claim 29, Yoneyama does not teach that the different conditions include different pixel-pattern readout. However, as taught by Terada, it is obvious to read out electric signals from an image sensor in different reading modes in which block and skip reading modes are operated to reduce processing time and for displaying in the case of motion picture beside the whole pixel reading mode which is performed for capturing a still picture as shown in Figs. 10-15; col. 11, lines 16-28 & col. 12, lines 11-28.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Yoneyama with Terada for providing a digital camera having plurality of reading modes in which block and skip pixel pattern reading modes are performed to obtain motion picture to reduce processing time and for displaying in the case of motion picture different from the whole pixel reading mode in case of still picture.

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4. Claims 18, 19, 24 & 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada (US 6,124,888) in view of Kobayashi (US 6,094, 223).

Regarding claim 18, Terada teaches that the first operation is a recording operation to record the captured image in a recording medium in accordance with a first pixel pattern as analyzed in claim 17. Terada also suggests adjustments of focus or image angle setting (col. 11, lines 47-51 & col. 25, lines 24-25). Terada does not teach that the second operation is an autofocus operation in which the second pixel pattern has a predetermined area having a higher density of pixels to be read than the other areas of the second pattern. As disclosed by Kobayashi, a focus area on an image sensor (3) is variably set so that charges of all pixels in that area is read out for focus sensing, wherein an entire area of the image sensor or a portion (12A-C) of the image sensor can be read out and used to perform autofocus as shown in Figs. 5A-C & 6; col. 6, lines 62-64 & col. 8, lines 50-59.

Therefore, it would have been obvious to one of ordinary skill in the art to enhance the digital camera in Terada by enabling reading out charges of all pixels in a predetermined area for performing autofocus as taught by Kobayashi so that an accurate correlation between pixels are obtained.

Regarding claim 19, Kobayashi teaches that the predetermined area of pixels to be read out is variable according to position of the subject image in focus (see Figs. 5A-C; col. 8, lines 50-59).

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Regarding claims 24 & 25, the claimed limitations are analyzed with respect to claims 18 and 19, respectively.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (703) 605-4246. The examiner can normally be reached on Monday - Thursday, 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

NT.



ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600